

## CURRICULUM VITAE

### **Kendall B. Wallace, Ph.D.**

Diplomate, American Board of Toxicology  
Fellow, Academy of Toxicological Sciences  
Editor, Toxicology

Professor  
Department of Biochemistry & Molecular Biology  
University of Minnesota  
School of Medicine  
Duluth, MN 55812-2487  
Telephone: 218-726-8899  
FAX: 218-726-8014  
e-mail: kwallace@d.umn.edu

### **Education**

Alpena High School, Alpena, MI	
Alpena Comm. College, Alpena, MI	Associate (Natural Science)
Michigan State Univ., East Lansing, MI	B.S. (Biochemistry)
Michigan State Univ., East Lansing, MI	M.S. (Physiology)
Michigan State Univ., East Lansing, MI	Ph.D. (Physiology)
University of Iowa, Iowa City, IA	Postdoc (Toxicology)

### **Appointments**

Research Assistant	Depts. Pharmacology & Toxicology and Physiology & Human Development Michigan State University, East Lansing, MI	1975-1977
Teaching Assistant	Department of Physiology Michigan State University, East Lansing, MI	1977-1979
Postdoctoral Fellow	Toxicology Center, Dept. Pharmacology University of Iowa, Iowa City, IA	1979-1981
Assistant Professor	Department of Pharmacology University of Minnesota	1981-1987
Director of Graduate Studies	Toxicology M.S./Ph.D. Program University of Minnesota -Associate Director -Director	1990-1994 1998-2001 2002-present
Director	Chemical Toxicology Research Center University of Minnesota -Associate Director	1985-1992 1992-2008
Associate Professor	Department of Pharmacology University of Minnesota	1987-1996
Associate Professor	Department of Biochemistry & Molecular Biology University of Minnesota	1996-1998
Professor	Department of Biochemistry & Molecular Biology University of Minnesota	1998-present

## **Teaching**

### UMD Medical School

Cardiovascular Pharmacology	1981-present
Fetal, Neonatal, and Geriatric Pharmacology	1981-1990
Clinical Toxicology and Therapeutics	1981-present
Advanced Pharmacology – Drug Metabolism	1985-1995
Clinical Pathology Case presentations (Environmental Medicine)	1996-present
Principles, Oxidative Phosphorylation	1997-1998

### Graduate Student Education

University of Minnesota Graduate School Appointments:	
Associate Member, Pharmacology	1984-1993
Full Member, Pharmacology	1993-present
Full Member, Toxicology	1990-present
Director of Graduate Studies, Toxicology Graduate Program	1990-94, 2001-08
Full Member, Biochemistry, Molecular Biology and Biophysics	1998-present

Major Advisor:

Member, Thesis Examining Committee:

Post-Doctoral Mentorships:

Visiting Scientists:

**Honors and Recognitions**

University of Minnesota School of Medicine	Basic Science Teacher of the Year	1987-1988
	Basic Science Teacher of the Year	1989-1990
	Basic Science Teacher of the Year	1997-1998
	Honorable Mention	1990-1991
	Honorable Mention	1997-1998
	Honorable Mention	2004-2005
Scholar, Great Lakes Occupational and Environmental Medicine Association of Occupational and Environmental Clinics		1995-1997
Toxicology Scholar University of Connecticut Center for Biochemical Toxicology		2000
Society of Toxicology Speakers Bureau		1998-2006
Society of Toxicology, Mechanisms Specialty Section, Meritorious Graduate Student Research		

Northland Regional Chapter of SOT Graduate Student Award	First Place	1999
	Third Place	2002
	First Place	2004
Northland Regional Chapter, Society of Environmental Toxicology and Chemistry	First Place	2002
American Chinese Toxicology Society Graduate Student Award	First Place	2000
Sigma Xi, Graduate Student Award	First Place	2002
3M Science & Technology Graduate Fellowship		2002-2006

**Awards**

	<u>total direct costs</u>	
NIEHS Individual Research Service Award (P.I.) “Free Radical Damage to Lung from Environmental Toxins”	\$22,768	1980-1981
Minnesota Medical Foundation (P.I.) “Nuclear Metabolism of Adriamycin to Intermediates which Interfere with DNA Replication”		1982-1983
American Cancer Society, University of Minnesota (P.I.) “Age-Related Differences in Adriamycin-Induced Poly (ADP)-Ribosylation of Nuclear Proteins and Susceptibility to Chemical-Induced DNA Damage”		1982-1983
University of Minnesota Graduate School (P.I.) “The Teratology and Reproductive Toxicity of Organophosphorus Pesticides”		1982-1983
Pharmaceutical Manufacturers’ Association Fnd. Research Starter Grant (P.I.) “Subcellular Compartmentalization of the Metabolic Activation and Free Radical-Induced Toxicity of Doxorubicin (Adriamycin)”		1982-1984
U.S. Environmental Protection Agency (P.I.) “Fish Surrogates for Higher Vertebrates in Risk Assessment”	\$332,320	1983-1987
Biomedical Research Support Grant (P.I.) “Epigenetic Free Radical Mechanisms of Microsomal-Mediated Genotoxicity: Aldehyde Generation During Doxorubicin-Mediated Lipid Peroxidation”		1987-1990
University of Minnesota Graduate School (P.I.) “Enzymological Basis for Anticholinesterase Species-Selectivity”		1987-1989
Minnesota Medical Foundation (P.I.) “Toxicity of Adriamycin to Cultured Heart Cells”		1989-1991
U.S. Environmental Protection Agency (P.I.) “Cytotoxic Mechanisms of Oxidative Chemical Reactivity”	\$75,000	1990-1993
American Heart Association – Minnesota Affiliate (P.I.) “Adriamycin-Induced Deregulation of Thiol-Dependent Cardiac Mitochondrial Calcium Homeostasis”		1992-1994
Minnesota Medical Foundation (P.I.)		1994-1995

“Adriamycin-Induced Mitochondrial Cardiomyopathy” University of Minnesota Graduate School (P.I.)		1994-1995
“Mitochondrial-Mediated Quinone Cytotoxicity” Association of Occupational and Environmental Clinics (P.I.)		1995-1996
“Great Lakes Environmental Medicine Scholarship” The 3M Company (P.I.)		1992-1996
“Mechanistic Toxicology” KALSEC (P.I.)		1995-1997
“Molecular Mechanisms of Mitochondrial Mutagenesis” Rohm and Haas Co. (P.I.)		1995-1998
“Mechanisms of Acrylic Acid-mediated Mitochondrial Toxicity” American Heart Association – Minnesota Affiliate (P.I.)		1996-1997
“Adriamycin-Induced Mitochondrial Cardiomyopathy” The 3M Company (P.I.)		1997-1998
“Biochemical and Molecular Mechanistic Studies of N-Alkyl- Perfluorosulfonamides” The 3M Company (P.I.)		1997-1998
“Mitochondrial Interactions of Peroxisome Proliferators” National Heart Lung and Blood Institute – NIH, R01-HL58016 (P.I.)	\$874,808	1997-2001
“Adriamycin-Induced Mitochondrial Cardiomyopathy” Whiteside Institute for Clinical Research (P.I.)		1998-1999
“The Efficacy of the Triterpenoid Betulin in Treating Pathogenic Herpes Viruses” The 3M Company (P.I.)		1998-2001
“Biochemical and Molecular Mechanistic Studies of N-Alkyl- Perfluorosulfonamides” The 3M Company (P.I.)		1998-2001
“Mitochondrial Interactions of Peroxisome Proliferators” University of Minnesota Academic Health Center (P.I.) Faculty Research Development Program		1999-2002
“Mechanisms of Antiviral Activity of Betulin and its Derivatives” Pharmacia & Upjohn (P.I.)		2000-2001
Effects of xenobiotics on mitochondrial metabolism Chemical Manufacturers’ Association (consultant)		2000-2002
“Cumulative Risk Assessment Methods for Mixtures with a Common Mode of Action” Minnesota Medical Foundation (P.I.)		2000-2001
“Prevention of Doxorubicin-induced Heart Damage by Carvedilol” University of Minnesota Graduate School (co-P.I.)		2000-2001
Adriamycin-induced mitochondrial cardiomyopathy: Ischemia/reperfusion studies. ACTG (co-P.I., 10% effort)		2000-2001
“A Pilot Study of the Status of Lymphocyte Mitochondria Biomarkers Among HIV-1 Infected Persons at Risk for Nucleoside Reverse Transcriptase-Related Mitochondrial Toxicity Compared to Controls” National Institutes of Health (co-I; 5% effort)	\$375,000	2001-2004
Nutritional Copper Status and the Nervous System Burroughs Wellcome Visiting Professorship (P.I.)		2001-2002

The 3M Company (P.I.)		2001-2003
“Mitochondrial Interactions of Peroxisome Proliferators”		
Great Lakes Regional Center for AIDS Research (P.I.)		2002-2003
“Nucleoside reverse transcriptase inhibitor- induced mitochondrial toxicity – Inhibition of the adenine nucleotide translocator”		
Duluth Clinic (co-P.I.)		2002-2003
“Prevention by carvedilol of doxorubicin-induced damage to heart, kidney, and liver”		
SMDC Foundation (co-P.I.)		2003-2004
“In vivo anti-herpes virus activity of beta-cyclodextrin”		
Minnesota Medical Foundation (co-P.I.)		2003-2004
“Prevention of doxorubicin-induced damage to heart, kidney and liver by vitamin E”		
NIH-NHLBI – competing renewal (P.I.)	\$1,333,018	2001-2007
“Adriamycin-Induced Mitochondrial Cardiomyopathy”		
NIH-NHLBI (P.I.)	\$1,804,534	2002-2008
“NRTI-induced Mitochondrial Cardiomyopathy”		
Minnesota Medical Foundation		2004-2005
“Shared Preparative Ultracentrifuge”		
University of Minnesota Graduate School		2004-2005
“Shared Preparative Ultracentrifuge”		
NIH-NIDK (R21, co-P.I.; 5% effort)	\$500,000	2005-2007
“Proteomics in Type I Diabetes and its Complications”		
NIH-NIDK (R21, co-P.I.; 20% effort)	\$180,000	2006-2008
“Mitochondrial and Oxidative Stress in Type I Diabetes”		
The 3M Company (P.I.)		2007-2011
“Mechanistic Toxicology”		
NIH-NIEHS, RFQ DLI60131 (P.I.)	\$98,290	2006-2009
“Mitochondrial Toxicities of Perfluoroalkanes: a QSAR study”		
SMDC Health System		2009-2010
“Metabolic Approaches to Radiosensitization”		
Whiteside Institute for Clinical Research (P.I.)		2009-2010
“Troglitazone Amplifies Mitochondrial Infidelity and Sensitizes Breast Cancer Cells to Chemotherapy”		
NIEHS (R01, P.I.)	\$958,089	(pending)
“Metabolic Remodeling as an Early Biomarker of Mitochondrial Toxicity”		
NIEHS (ES-11-002, R21, P.I.)	\$300,000	(pending)
“Perfluorinated fatty acids compete for dietary cholesterol transport”		
NIEHS (ES-11-171, R21, P.I.)	\$350,000	(pending)
“Transgenerational metabolic effects of perfluorinated fatty acids”		

## **Professional Activities**

### **Certifications:**

Diplomate, American Board of Toxicology	1992, 1997, 2002
Board of Directors	1998-2002
Vice-President	2000-2001
President	2001-2002
Fellow, Academy of Toxicological Sciences	2005, 2010

**Consultancies:**

StrataTox, LLC, President & CEO	2004-present
• Advise pharma, food and chemical industry clients on product development, product stewardship, worker & consumer safety	
• Assist clients with product registration (EPA, FDA)	
• Litigation support (past five years):	

**Societies:**

<i>Society of Toxicology (SOT)</i>	
Continuing Education Committee, member	1988-1993
Chair 1991-1993	
Finance Committee	1994-1997
Nominating Committee	1997-1998; 2009-2011
Council Secretary-Elect	1999-2000
Council Secretary	2000-2002
Media Resource Specialist	1999-2001
Continuing Education Committee Speakers Bureau	1998-2000
	2000-2002
Vice President-Elect	2003-2004
Vice President	2004-2005
President	2005-2006
Past President	2006-2007
Endowment Fund Board	2011-2014
<i>Mechanisms Specialty Section</i>	
Program Committee	1990-1992
Secretary/Treasurer	1998-2000
<i>Mixtures Specialty Section</i>	
Vice-President elect, VP, President	2010-2013
<i>Northland Regional Chapter</i>	
President	1998-2000
Past President	2000-2001
<i>International Union of Toxicology (IUTOX) – International Congress of Toxicology</i>	
Executive Committee	
(ICT VII, Seattle, USA)	1993-1995
Continuing Education Committee, Chair	
(ICT VII, Seattle, USA)	1993-1995
Continuing Education Committee, member	
(ICT VIII, Paris, France)	1995-1998
Continuing Education Committee, member	
(ICT X, Tampere, Finland)	2002-2004
International Advisory Board (ICT-XIII, Seoul, Korea)	2007-2008

<i>American Society for Pharmacology and Experimental Therapeutics (ASPET)</i>	
Member	1983-present
Division of Toxicology	
Nominating Committee, Chair	1992, 1995
Executive Committee	1992-1994
Executive Committee	1995-1998
<i>5th International Workshop on QSAR in Environmental Toxicology</i>	
Organizational Committee QSAR '92	1991-1992
<i>EUROTOX, European Society of Toxicology</i>	
Member	1997-present
<i>Mitochondrial Research Society</i>	
President	2003-2004
<i>United Mitochondrial Disease Foundation</i>	
Co-chair, Research Review Committee	2004-2006
Scientific and Medical Advisory Board	2004-2010

**Scientific Advisory Panels:**

Council of Great Lakes Governors	
Member, Scientific Advisory Panel, Fish Consumption Advisories	1994-1997
International Joint Commission	
Member, Advisory Workshop – Health Professional Task Force "Environmental Contaminants and Public Health: Current Approaches and Future Considerations"	1995
National Institutes of Health	
Member, NHLBI Working Group – Mitochondrial Mutagenesis and Cardiomyopathy	1993-1995
Toxicology Study Section, Ad Hoc	1997
Member, NHLBI Working Group – Research Priorities for Cardiovascular Disease in HIV infection/AIDS	2004
Ad hoc member, Neural and Oxidative Metabolic Disease Study Section	2009
Risk Sciences Institute; International Life Sciences Institute	
Common Mechanisms of Toxicity of Organophosphorus Insecticides 1996 Food Quality Protection Act	1997
Working Group, Methods for Evaluation of Peripheral Nervous System	1997
Anticholinesterase Activity	
Common Mechanisms of Toxicity of Carbamate Insecticides 1996 Food Quality Protection Act	1997-1998
Health and Environmental Sciences Institute; International Life Sciences Institute Emerging Issues Committee	1998-2007
Board of Trustees	2004-2012
Chair	2010-2012
National Science Foundation, Grant Reviewer, Molecular Biochemistry Program	1997
Chemical Manufacturers' Association, Steering Committee, Molecular Biomarkers of Chemical Toxicity	1999-2000
U.S. Environmental Protection Agency, FQPA Scientific Review Board, FIFRA Scientific Advisory Panel	1999-2001

Acrylonitrile Working Group, Scientific Advisor	1999-2000
U.S. Food & Drug Administration, Center for Drug Evaluation Research,	2001-2004
Pharmaceutical Sciences Advisory Committee, Nonclinical Studies Subcommittee	
Chair, Expert Working Group on Biomarkers of Drug-Induced Cardiac Toxicity	
Center for Neuroscience and Cell Biology, University of Coimbra, PORTUGAL	2002-2007
Mississippi State University, Center for Environmental Toxicology	2004-2009
Mitochondrial Research Society, President	2003-2005
Ministero Dell'Istuzione, Dell'Universita' e Della Ricerca	2009-2010
Grant reviewer, Italian Ministry for Instruction and University Research Medical Advisory Panel, HRSA Vaccine Injury Compensation Program	2010-present

## **Editorships**

### **Journals:**

Editor: Toxicology	2001-present
Toxic Substance Mechanisms	1997-2000
Associate Editor: Toxicology and Applied Pharmacology	1997-2004
Mitochondrion 1999-2007	
Cardiovascular Toxicology	2002-2007
Editorial Boards: Toxicology and Applied Pharmacology	1992-1997
Journal of Pharmacological and Toxicological Methods	1991-1999
Toxic Substance Mechanisms	1992-2000

### **Books:**

Free Radical Toxicology: Target Organ Toxicology Series (ed., K.B. Wallace), Taylor & Francis	1997
Molecular Biology of the Toxic Response (eds., A. Puga and K.B. Wallace) Taylor & Francis	1998

### **Contributing Reviewer:**

Introduction to Biochemical Toxicology (ed., E. Hodgson) Elsevier	1987, 1990-1991
Interim Report, Toxic Substances Control Act Interagency Testing Committee Sixth Scoring Exercise (eds., R.H. Brink and J.D. Walker)	1987
Clinical Pharmacology: Basic Principles in Therapeutics, 3rd Ed. (eds., K.L. Melmon, H.F. Morrelli, B.B. Hoffman & D.W. Nierenberg) McGraw-Hill, Inc.	1995
Proceedings of the International Congress of Toxicology – VII (ed., D.J. Reed) Elsevier	1995

### **Ad hoc Reviewer:**

Aquatic Toxicology	Journal of Biological Chemistry
Archives of Biochemistry and Biophysics	Journal of Cellular Physiology
Biochemical Pharmacology	Toxicological Sciences

Journal of Pharmacology and  
Experimental Therapeutics  
Cancer Research  
Chemical Research in Toxicology  
Chemico-biol. Interactions  
Free Radical Biology & Medicine

Molecular and Cellular Biochemistry  
Toxicology and Applied Pharmacology  
Toxicology Letters  
Mitochondrion

### **Invited presentations**

University of Minnesota Graduate School Research Symposium; Academia in Review  
“Species-Selective Targeting of Anticholinesterase Insecticides”  
October 6, 1988, Minneapolis, MN

Society of Toxicology, Midwest Regional Chapter Annual Symposium  
“Enzymological Basis of Species-Selective Anticholinesterase Toxicity”  
November 4, 1988, Chicago, IL

Iowa State University, Toxicology Program  
“Enzymological Basis of Species-Selective Anticholinesterase Toxicity”  
April 4, 1989, Ames, IA

American Chemical Society, Agrochemicals Division – 199th National Meeting  
“Species-Related Differences in the Catalytic Site of Brain Acetylcholinesterase”  
April 22-27, 1990, Boston, MA

International Society for Free Radical Research, Fifth Biennial Meeting  
“Oxygen Free Radical-Independent Generation of Microsomal Lipid Aldehydes and Consumption of  
Glutathione by Adriamycin”  
November 14-20, 1990, Pasadena, CA

Society of Toxicology, Michigan Chapter  
“Mitochondrial Toxicity of Adriamycin”  
October 8, 1993, Ann Arbor, MI

Mississippi State University, Toxicology Graduate Program  
“Mitochondrial-Mediated Toxicity”  
April 18, 1994, Mississippi State, MS

Medical College of Wisconsin, Department of Pharmacology & Toxicology  
“Mechanisms of Adriamycin-Induced Mitochondrial Cardiomyopathy”  
February 16, 1995, Milwaukee, WI

National Heart, Lung, and Blood Institute – NIH  
“Mitochondrial Mutagens: Drug Accelerants of Cardiomyopathy”  
May 15 & 16, 1995, Bethesda, MD

Society of Toxicology Annual Meeting – Co-Chair; Continuing Education Course  
“Mitochondrial Injury in Toxicology”  
March 10, 1996, Anaheim, CA

Society of Toxicology Annual Meeting – Continuing Education Course speaker  
“Mitochondrial Calcium Cycling and Activation of the Permeability Transition Pore”  
March 10, 1996, Anaheim, CA

Society of Toxicology Annual Meeting – Co-Chair; Symposium  
“Mitochondrial-Mediated Cell Injury”  
March 13, 1996, Anaheim, CA

Society of Toxicology Annual Meeting – Symposium presentation  
“Quinone-Induced Interference with Mitochondrial Calcium Regulation”  
March 13, 1996, Anaheim, CA

University of Coimbra, Departments of Biochemistry and Toxicology  
“Mechanisms Mitochondrial Toxicity – An Advanced Investigative Laboratory Course”  
April 8-19, 1996, Coimbra, Portugal

University of Coimbra, Departments of Biochemistry and Toxicology  
“Molecular Mechanisms of Toxic Tissue Injury”  
April 17, 1996, Coimbra, Portugal

9th Annual European Bioenergetics Conference  
“Adriamycin-Induced Mitochondrial Cardiomyopathy”  
Colloquium: The Mitochondrial Permeability Transition in Accidental and Programmed Cell Death  
August 17-22, 1996, Louvain-la-Neuve, Belgium

Frontiers of Mitochondrial Research  
“Regulation of the Mitochondrial Permeability Pore by Naphthoquinones: Chemical Reactivity-Dependent Mechanisms”  
September 19-22, 1996, Rensselaerville Conference Center, New York

Department of Pharmacology and Toxicology – University of Kansas Medical Center  
“Differential Mechanisms of Induction of the Mitochondrial Permeability Transition by Naphthoquinones”  
October 8, 1996, Kansas City, KS

Center for Neuroscience of Coimbra  
International Series in Biomedical Science – Molecular Mechanisms of Cardiovascular Disease  
“Molecular Mechanisms of Mitochondrial Myopathies”  
November 22 & 23, 1996, Coimbra, Portugal

University of Minnesota-Duluth, Chemistry Department  
“Radical Differences in the Mechanisms of Chemical-Induced Mitochondrial Toxicity”  
October 10, 1997

Society of Toxicology Annual Meeting – Symposium presentation  
“Mitochondrial Permeability Transition in Oxidant-Induced Cardiomyopathy”  
March, 1998, Seattle, WA

University of Minnesota-Twin Cities, Department of Biochemistry & Molecular Biology

“Free Radical-Mediated Mitochondrial Myopathies”

June 15, 1998

International Congress of Toxicology - Continuing Education Course speaker

“Oxidative Stress”

July 4, 1998, Paris, France

West Virginia University

Department of Pharmacology & Toxicology

Lecture: “Multiple Modes of Mitochondrial Myopathies”

Seminar: “Adriamycin-induced Mitochondrial Cardiomyopathy”

November 16, 1998, Morgantown, WV

St. Luke’s Hospital

“The Biological Basis of Anti-arrhythmic Drug Therapy”

CE Cardiac Update

February 18, 1999

Society of Toxicology Annual Meeting - Continuing Education Course speaker

“Generation of Reactive Oxygen by Mitochondria”

March 14, 1999, New Orleans, LA

Society of Toxicology

“Mitochondrial-Mediated Apoptosis”

Co-chair Poster/Discussion Section

March 17, 1999, New Orleans, LA

Indiana University

Department of Pharmacology & Toxicology

“Adriamycin-induced Mitochondrial Cardiomyopathy”

April 16, 1999, Indianapolis, IN

University of Coimbra

Center of Neuroscience and Cell Biology

“Mitochondrial Permeability Transition: a redox sensor for chemical toxicity”

May 14, 1999, Coimbra, PORTUGAL

University of Coimbra

Center of Neuroscience and Cell Biology

“Adriamycin-induced Mitochondrial Cardiomyopathy: a pore way to signal cell death”

May 15, 1999, Coimbra, PORTUGAL

Pharmacia & Upjohn

Investigative Toxicology Division

“The Mitochondrial Permeability Transition: a pore way to regulate cell function and fate”

June 4, 1999, Kalamazoo, MI

Parke-Davis Pharmaceuticals

Experimental Pathology & Toxicology Division

“The Mitochondrial Permeability Transition: a pore way to signal cell death”

June 10, 1999, Ann Arbor, MI

Keystone Symposia on Molecular and Cellular Biology  
“Adriamycin-Induced Mitochondrial Pathogenesis In Vivo”  
January 15-20, 2000, Santa Fe, NM

University of Minnesota  
Department of Medicinal Chemistry  
“Adriamycin-induced Mitochondrial Cardiomyopathy”  
February 8, 2000, Minneapolis, MN

Michigan State University  
Department of Pharmacology & Toxicology  
“Adriamycin-induced mitochondrial cardiomyopathy: A pore way to die”  
February 22, 2000, East Lansing, MI

Society of Toxicology – Continuing Education Course speaker  
“Cardiotoxicity; critical events and emerging issues”  
March 17-24, 2000, Philadelphia, PA

Pfizer Pharmaceuticals, Inc.  
“Adriamycin-induced mitochondrial cardiomyopathy”  
April 6, 2000, Groton, CT

University of Connecticut – TOXICOLOGY SCHOLARS COLLOQUIUM  
Center for Biochemical Toxicology  
“Adriamycin-induced mitochondrial cardiomyopathy: A pore way to die”  
April 7, 2000, Storrs, CT

Washington State University  
Department of Pharmaceutical Sciences  
“Adriamycin-induced mitochondrial cardiomyopathy”  
April 27, 2001, Pullman, WA

University of Coimbra  
Center of Neuroscience and Cell Biology  
“Calcium-loading and induction of the mitochondrial permeability transition.”  
May 21, 2001, Coimbra, PORTUGAL

University of Coimbra  
Center of Neuroscience and Cell Biology  
“Adriamycin-induced irreversible mitochondrial cardiomyopathy”  
May 23, 2001, Coimbra, PORTUGAL

American College of Toxicology  
Co-chair, “Cardiac troponins as biomarkers of drug-induced myocardial injury”  
November 5, 2001, Rockville, MD

International Life Sciences Institute  
Co-chair, “Mitochondrial Pathobiology”

December 1, 2001, Salt Lake City, UT

American College of Veterinary Pathobiology.  
ILSI Seminars on Advanced Pathologic Techniques: Mechanisms of Mitochondrial Pathobiology  
"Mechanisms of mitochondrial injury"  
December 1, 2001, Salt Lake City, UT

International Life Sciences Institute  
Co-chair, "Genomic technologies"  
January 22, 2002, Cancun, MEXICO

Society of Toxicology  
"Molecular mechanisms of perfluorooctane toxicity"  
March 18-22, 2002, Nashville, TN

University of Louisville  
"Molecular Mechanisms of Chemical-induced Cardiac Injury"  
November 8, 2002, Louisville, KY

Merck & Co., Inc.  
"Multiple Mechanisms of Drug-induced Mitochondrionopathy"  
December 19, 2002, West Point, PA

National Institute of Environmental Health Sciences  
"Perfluoroalkane-induced Mitochondrionopathies"  
April 10, 2003, Research Triangle Park, NC

Hoffman-Roche Pharmaceuticals  
"Biomarkers fo Drug-induced Cardiac Toxicity"  
May 6, 2003, Nutley, NJ

Mitochondrial Medicine/Research Society  
"Free-radical-mediated mitochondrionopathies"  
June 12-14, 2003, San Diego, CA

South Central Regional Chapter, Society of Toxicology  
"Multiple Mechanisms of Chemical-induced Mitochondrionopathies"  
October 10, 2003, Louisiana State University, Shreveport, LA

AACC/Division of Animal Clinical Chemistry  
"Conclusions of the FDA Expert Working Group on Biomarkers of Drug-Induced Cardiac Toxicity"  
April 23, 2004, Nutley, NJ

Schering AG  
"Case-Studies of Dose-Dependent Transitions in Toxicology"  
"Troponin Biomarkers of Cardiac Injury"  
September 2, 2004, Berlin GERMANY

NHLBI Working Group on Cardiovascular Complications of HIV Infection and AIDS

“NRTI-induced Mitochondrial Cardiomyopathy”

October 13, 2004, Bethesda, MD

U.S. Food and Drug Administration

“Early Preclinical Signals for Drug-induced Mitochondrial Toxicities”

September 14, 2004, Rockville Pike, MD

South Central Regional Chapter, Society of Toxicology

“Multiple Mechanisms of Chemical-induced Mitochondrionopathies”

October 15, 2004, Mississippi State University, Starkville, MS

Mid-Atlantic Regional Chapter, Society of Toxicology

“Adriamycin-induced Cardiomyopathy – A Radical Mechanism of Toxicity”

October 21, 2004, NIEHS, Research Triangle Park, NC

University of Coimbra Center for Neurosciences & Cell Biology

“Multiplicity of Mitochondrial Toxicities”

December 8, 2004

University of Coimbra Center for Neurosciences & Cell Biology

“Adriamycin-induced Mitochondrial Cardiomyopathy”

December 8, 2004

University of Coimbra Center for Neurosciences & Cell Biology

“Reverse Transcriptase Inhibitor-induced Mitochondrial Depletion”

December 9, 2004

Penn State University, Center for Molecular Toxicology

“Adriamycin-induced Mitochondrial Cardiomyopathy - Molecular Basis for Persistent Metabolic Adaptations”

April 29, 2005

University of Cincinnati, Department of Environmental Health

“Chemical-induced Mitochondrial Cardiomyopathies”

June 7, 2005

2<sup>nd</sup> Knoxville Reactivity Workshop

“QSAR Inhalation Toxicity Database”

April 2, 2006

Keystone Symposium, Victoria, BC

“Mitochondrial Cardiomyopathy and the Compensated Metabolic State”

May 9, 2006

Universidade de Sao Paulo – USP, Faculdade de Ciencias Farmaceuticas de Ribeiro Preto, Brasil

“A Small Dose of Toxicology”

August 29, 2006

Society for Heart and Vascular Metabolism, Semiahmoo, CA

“Cardiomyopathies Induced by Mitochondrial Damage”

September 6-9, 2006

ILSI Health and Environmental Sciences Institute, Genomics in Mechanism Based Risk Assessment, Washington, DC "Transcriptional Control of the Metabolic Compensatory Response to Doxorubicin-induced Cardiac Failure"

September 11, 2006

EUROTOX 2006/6<sup>th</sup> Croatian Toxicological Society, Dubrovnik, Croatia  
"Dose-Dependent Transitions in Mechanisms of Toxicity"

September 22, 2006

EUROTOX 2006/6<sup>th</sup> Croatian Toxicological Society, Dubrovnik, Croatia  
"Evolving Identity of Toxicology"

September 21, 2006

Como, Italy "Adriamycin Mitochondrionopathy"

"Anthracycline Cardiotoxicity: Molecular Mechanisms and Clinical Correlates"

October 20-21, 2006

University of Iowa College of Pharmacy, Division of Medicinal and Natural Products Chemistry  
"Adriamycin-induced Mitochondrial Cardiomyopathy and the Compensated Metabolic State"

November 7, 2006

Oklahoma State University, 2006 Sitlington Lecturer in Toxicology

"Adriamycin-induced Mitochondrial Cardiomyopathy and the Compensated Metabolic State"

November 30, 2006

Gordon Research Conference – Adverse Drug Reactions

"Mitochondrial Toxicity Related Cardiac and Muscle Injury"

Colby College, Waterville, ME

June 11, 2007

Gordon Research Conference – Toxicogenomics

"Metabolic Correlates of the Transcriptional Signature of Doxorubicin-induced Cardiomyopathy."

Colby-Sawyer College, New London, NH

June 26, 2007

International Society of Exposure Analysis

"An Editorial Perspective of Effective Scientific Writing"

Durham, NC

Oct. 16, 2007

American College of Occupational and Environmental Medicine

"Stratifying Risks of Complex Exposures"

Vancouver, BC

Oct. 28, 2007

Society of Toxicology

"Transcriptional Signature of Mitochondrial Toxicities"

Seattle, WA

March 19, 2008

United Mitochondrial Disease Foundation  
"Metabolic Profiles of Mitochondrial Toxicities"  
Indianapolis, IN  
June 28, 2008

EUROTOX, European Society of Toxicology  
"Adriamycin-induced Mitochondrial Cardiomyopathy"  
Rhodes, GREECE  
October 7, 2008

National Toxicology Program, NIEHS  
"Mitochondrial Toxicity of Perfluoroalkyl Acids: a Structure- Activity Analysis"  
Research Triangle Park, NC  
July 13, 2009

Rutgers University  
Division of Environmental and Occupational Health  
"Metabolic Basis of Pefluoroalkyl Acid Toxicity"  
October 1, 2009

Society of Toxicology  
"Molecular Determinants of Mitochondrial Disease"  
Salt Lake City, UT  
March 12, 2010

University of Coimbra  
"Mitochondrial Metabonomics"  
Coimbra, Portugal  
September 30, 2010

Invited Discussant - Nature, Institute of Food Technology, and PEW Health Group sponsored workshop  
"Enhancing FDA's evaluation of science to ensure chemicals added to food are safe"  
Washington, DC  
April 5-6, 2011

United Mitochondrial Disease Foundation  
" The metabolic Phenotype of Environmentally-induced Mitochondrial Disease"  
Chicago, IL  
June 17, 2011

XVII Brazilian Congress of Toxicology  
"Metabolomic profile of adriamycin-induced mitochondrial cardiomyopathy"  
"Mechanistic considerations for human health risk assessment for perfluorinated alkyl acids in the environment"  
Ribeiro Preto, Brazil  
June 24, 2011

Safety Pharmaceutical Society

“Drug-induced Mitochondrial Cardiomyopathy”  
Innsbruck, Austria  
Sept. 11, 2011

Co-Chair, International Toxicology of Mixtures Conference,  
Washington, DC  
October 21-23, 2011

### **Publications, Full-Length Peer-Reviewed Manuscripts**

1. Wallace, K.B., Bailie, M.D. and Hook, J.B. 1978 . Angiotensin-Converting Enzyme in Developing Lung and Kidney. *Amer. J. Physiol.* **234**, R141-R145.
2. Wallace, K.B., Bailie, M.D. and Hook, J.B. 1979 . Development of Angiotensin-Converting Enzyme in Fetal Rat Lungs. *Amer. J. Physiol.* **236**, R57-R60.
3. Roth, R.A., Wallace, K.B., Alper, R.H. and Bailie, M.D. 1979 . Effect of Paraquat Treatment of Rats on Disposition of 5-Hydroxytryptamine and Angiotensin I by Perfused Lung. *Biochem. Pharmacol.* **28**, 2349-2355.
4. Wallace, K.B., Roth, R.A., Hook, J.B. and Bailie, M.D. 1980 . Age-Related Differences in Angiotensin I Metabolism by Isolated Perfused Rat Lungs. *Amer. J. Physiol.* **238**, R395-R399.
5. Wallace, K.B., Hook, J.B. and Bailie, M.D. 1980 . Postnatal Development of the Renin-Angiotensin System in Rats. *Amer. J. Physiol.* **238**, R432-R437.
6. Wallace, K.B., Bailie, M.D., Hook, J.B. and Roth, R.A. 1980 . Disposition of 5-Hydroxytryptamine in Lungs of Developing Rats. *Amer. J. Physiol.* **239**, R401-R406.
7. Wallace, K.B., Osborn, J.L. and Bailie, M.D. 1980 . Species Differences in the Kinetics of the Renin-Substrate Reaction in Plasma. *J. Pharmacol. Methods* **4**, 141-154.
8. Roth, R.A. and Wallace, K.B. 1980 . Disposition of Biogenic Amines by Lungs of Spontaneously Hypertensive Rats. *Amer. J. Physiol.* **239**, H736-H741.
9. Wallace, K.B., Oparil, S. and Bailie, M.D. 1981 . Angiotensin II Metabolism by Tissues from Developing Rats. *Pediatr. Res.* **15**, 1088-1092.
10. Wallace, K.B. and Bailie, M.D. 1982 . Age-Related Differences in the Stoichiometry of the Renin-Angiotensinogen Reaction in Rat Plasma. *Develop. Pharmacol. Ther.* **4**, 190-204.
11. McCormack, K.M., Roth, R.A., Wallace, K.B., Ross, L.M. and Hook, J.B. 1982 . Non-respiratory Metabolic Function and Morphology of Lung Following Exposure to Polybrominated Biphenyls in Rats. *J. Toxicol. Environ. Health* **9**, 27-39.
12. Wallace, K.B. 1983 . Hepatic Redox Homeostasis Following Acute Adriamycin Intoxication in Rats. *Biochem. Pharmacol.* **32**, 2577-2582.
13. Wallace, K.B. 1986 . Aglycosylation and Disposition of Doxorubicin in Isolated Rat Liver Nuclei and Microsomes. *Drug Metab. Dispos.* **14**, 399-404.
14. Wallace, K.B. 1986 . Nonenzymatic Oxygen Activation and Stimulation of Lipid Peroxidation by Doxorubicin-Copper. *Toxicol. Appl. Pharmacol.* **86**, 69-79.
15. Wallace, K.B. and Johnson, J.A. 1987 . Oxygen-Dependent Effect of Microsomes on the Binding of Doxorubicin to Rat Hepatic Nuclear DNA. *Molec. Pharmacol.* **31**, 307-311.
16. Johnson, J.A. and Wallace, K.B. 1987 . Species-Related Differences in the Inhibition of Brain Acetylcholinesterase by Paraoxon and Malaoxon. *Toxicol. Appl. Pharmacol.* **88**, 234-241.
17. Wallace, K.B. and Dargan, J.E. 1987 . Intrinsic Metabolic Clearance of Parathion and Paraoxon by Liver from Fish and Rodents. *Toxicol. Appl. Pharmacol.* **90**, 235-242.

18. Wallace, K.B. and Herzberg, U. 1988 . Reactivation and Aging of Phosphorylated Brain Acetylcholinesterase from Fish and Rodents. *Toxicol. Appl. Pharmacol.* **92**, 307-314.
19. Wallace, K.B. and Niemi, G.J. 1988 . Structure-Activity Relationships of Species-Selectivity in Acute Chemical Toxicity Between Fish and Rodents. *Environ. Toxicol. Chem.* **7**, 201-212.
20. Wallace, K.B. 1989 . Glutathione-Dependent Metabolism in Fish and Rodents. *Environ. Toxicol. Chem.* **8**, 1049-1055.
21. Kemp, J.R. and Wallace, K.B. 1990 . Molecular Determinants of the Species-Selective Inhibition of Brain Acetylcholinesterase. *Toxicol. Appl. Pharmacol.* **104**, 246-258.
22. Wallace, K.B. and Kemp, J.R. 1991 . Species-Specificity in the Chemical Mechanisms of Organophosphorus Anticholinesterase Activity. *Chem. Res. Toxicol.* **4**, 41-49.
23. Solem, L.E. and Wallace, K.B. 1993 . Selective Activation of the Sodium-Independent, Cyclosporin A-Sensitive Calcium Pore of Cardiac Mitochondria by Doxorubicin. *Toxicol. Appl. Pharmacol.* **121**, 50-57.
24. Trost, L.C. and Wallace, K.B. 1994 . Stimulation of Myoglobin-Dependent Lipid Peroxidation by Adriamycin. *Biochem. Biophys. Res. Comm.* **204**, 23-29.
25. Trost, L.C. and Wallace, K.B. 1994 . Adriamycin-Induced Oxidation of Myoglobin. *Biochem. Biophys. Res. Comm.* **204**, 30-37.
26. Solem, L.E., Henry, T.R. and Wallace, K.B. 1994 . Disruption of Mitochondrial Calcium Homeostasis Following Chronic Doxorubicin Administration. *Toxicol. Appl. Pharmacol.* **129**, 214-222.
27. Saxena, K., Henry, T.R., Solem, L.E. and Wallace, K.B. 1995 . Enhanced Induction of the Mitochondrial Permeability Transition Following Acute Menadione Administration. *Arch. Biochem. Biophys.* **317**, 79-84.
28. Henry, T.R., Solem, L.E. and Wallace, K.B. 1995 . Channel-Specific Induction of the Cyclosporine A-Sensitive Mitochondrial Permeability Transition by Menadione. *J. Toxicol. Env. Health* **45**, 489-504.
29. Henry, T.R. and Wallace, K.B. 1995 . Differential Mechanisms of Induction of the Mitochondrial Permeability Transition by Quinones of Varying Chemical Reactivities. *Toxicol. Appl. Pharmacol.* **134**, 195-203.
30. Henry, T.R. and Wallace, K.B. 1995 . The Role of Redox Cycling Versus Arylation in Quinone-Induced Mitochondrial Dysfunction: A Mechanistic Approach in Classifying Reactive Toxicants. *SAR QSAR Environ. Res.* **4**, 97-108.
31. Palmeira, C.M.M., Moreno, A.J.M., Madeira, V.M.C. and Wallace, K.B. 1996 . Continuous Monitoring of Mitochondrial Membrane Potential in Hepatocyte Cell Suspensions. *J. Pharmacol. Toxicol. Methods* **35**, 35-43.
32. Solem, L.E., Heller, L.J. and Wallace, K.B. 1996 . Dose-Dependent Increase in Sensitivity to Calcium-Induced Mitochondrial Dysfunction and Cardiomyocyte Cell Injury by Doxorubicin. *J. Mol. Cell. Cardiol.* **28**, 1023-1032.
33. Henry, T.R. and Wallace, K.B. 1996 . Differential Mechanisms of Cell Killing by Redox Cycling and Arylating Quinones. *Arch. Toxicol.* **70**, 482-489.
34. Serrano, J., Palmeira, C.M., Wallace, K.B. and Kuehl, D. 1996 . Determination of 8-Hydroxydeoxyguanosine in Biological Tissue by Liquid Chromatography/Electrospray Ionization-Mass Spectrometry/Mass Spectrometry. *Rapid Commun. Mass Spec.* **10**, 1789-1791.
35. Palmeira, C.M. and Wallace, K.B. 1997 . Benzoquinone Inhibits the Voltage-Dependent Induction of the Mitochondrial Permeability Transition Caused by Redox Cycling Naphthoquinones. *Toxicol. Appl. Pharmacol.* **143**, 338-347.
36. Palmeira, C.M., Serrano, J., Kuehl, D.W. and Wallace, K.B. 1997 . Preferential Oxidation of Cardiac Mitochondrial DNA Following Acute Doxorubicin Intoxication. *Biochim. Biophys. Acta* **1321**, 101-106.

37. Wallace, K.B., Eells, J.T., Madeira, V.M.C., Cortopassi, G., and Jones, D.P. 1997 "Mitochondria-Mediated Cell Injury." *Fund. Appl. Toxicol.* **38**, 23-37.
38. Mileson, B.E., Chambers, J.E., Chen, W.L., Dettbarn, W., Ehrich, M., Eldefrasi, A.T., Gaylor, D.W., Hamernik, K., Hodgson, E., Karczmar, A.G., Padilla, S., Pope, C.N., Richardson, R.J., Saunders, D.R., Sheets, L.P., Sultatos, L.G., and Wallace, K.B. 1998 . Common Mechanism of Toxicity: A Case Study of Organophosphorus Pesticides. *J. Toxicol. Sci.* **41**, 8-20.
39. Custodio, J.B.A., Palmeira, C.M., Moreno, A.J. and Wallace, K.B. 1998 . Acrylic Acid Induction of the Mitochondrial Permeability Transition by Calcium and Inorganic Phosphate. *Toxicol. Sci.* **43**, 19-27.
40. Custodio, J.B.A., Moreno, A.J.M. and Wallace, K.B. 1998 . Tamoxifen Inhibits Induction of the Mitochondrial Permeability Transition by Calcium and Inorganic Phosphate. *Toxicol. Appl. Pharmacol.* **152**, 10-17.
41. Serrano, J., Palmeira, C.M., Kuehl, D.W. and Wallace, K.B. 1999 . Cardioselective and cumulative oxidation of mitochondrial DNA following subchronic doxorubicin administration. *Biochim. Biophys. Acta* **1411**, 201-205.
42. Zhou, S. and Wallace, K.B. 1999 . The Effect of Peroxisome Proliferators on Mitochondrial Bioenergetics. *Toxicol. Sci.* **48**, 82-89.
43. Palmeira, C.M., Rana, I., Frederick, C.B. and Wallace, K.B. 2000 . Induction of the mitochondrial permeability transition in vitro by short chain carboxylic acids. *Biochim. Biophys. Res. Commun.* **272**, 431-435.
44. Wallace, K.B. and Starkov, A. 2000 . "Mitochondrial Targets of Drug Toxicity". In: Annual Reviews of Pharmacology and Toxicology, **vol. 40**, 353-388.
45. Zhou, S., Starkov, A., Froberg, M.K., Leino, R.L., and Wallace, K.B. 2001 . Cumulative and irreversible cardiac mitochondrial dysfunction induced by doxorubicin. *Cancer Research* **61**, 771-777.
46. Zhou, S., Palmeira, C.M. and Wallace, K.B. 2001 . Doxorubicin-induced persistent oxidative stress to cardiac myocytes. *Tox. Letters* **121**, 151-157.
47. Zhou, S., Heller, L.J. and Wallace, K.B. 2001 . Interference with calcium-dependent mitochondrial bioenergetics in cardiac myocytes isolated from doxorubicin-treated rats. *Toxicol. Appl. Pharmacol.* **175**, 60-67.
48. Henry K, Erice A, Balfour HH Jr, Schmeling M, Berthiaume J, Wallace K. 2002 . Lymphocyte mitochondrial biomarkers in asymptomatic HIV-1-infected individuals treated with nucleoside reverse transcriptase inhibitors. *AIDS.* **16**, 2485-2487.
49. Rolo, A.P., Palmeira, C.M., and Wallace, K.B. 2002 Interactions of combined bile acids on hepatocyte viability: cytoprotection or synergism. *Tox. Letters*, **126**, 197-203.
50. Starkov, A.A. and Wallace, K.B. 2002 . Structural determinants of fluorochemical-induced mitochondrial dysfunction. *Toxicol. Sci.* **66**, 244-252.
51. Berthiaume, J. and Wallace, K.B. 2002 . Perfluorooctanoate, Perfluorooctanesulfonate, and N-Ethyl Perfluorooctanesulfonamido Ethanol; Peroxisome Proliferation and Mitochondrial Biogenesis. *Tox. Letters* **129**, 23-32.
52. Santos, D.L., Moreno, A.M., Leino, R.L., Froberg, M.K., and Wallace, K.B. 2002 . Carvedilol protects against doxorubicin-induced mitochondrial cardiomyopathy. *Toxicol. Appl. Pharmacol.* **185**, 218-27.
53. Rolo, A.P., Palmeira, C.M., and Wallace, K.B. 2003 . Mitochondrially-mediated synergistic cell killing by bile acids. *Biochim. Biophys. Acta* **1637**, 127-132.
54. Hollingworth, R.M., Bjeldanes, L.F., Bolger, M., Kimber, I., Meade, B.J., Taylor, S.L., and Wallace, K.B. 2003 . The safety of genetically modified foods produced through biotechnology. *Toxicol. Sci.* **71**, 2-8.

55. Heller, L.J., Mohrman, D.E., Smith, J.A., and Wallace, K.B. 2003 . Multitrack system for superfusing isolated cardiac myocytes. *Am. J. Physiol. Heart Circ. Physiol.* **284**, H1872-H1878.
56. Wallace, K.B. 2003 . "Doxorubicin-induced Cardiac Mitochondrionopathy." *Pharmacology & Toxicology* **93**, 105-115.
57. Wallace, K.B., Hausner, E., Herman, E., Holt, G.D., MacGregor, J.T., Metz, A.L., Murphy, E., Rosenblum, I.Y., Frank D. Sistare, F.D., and York, M.J. 2004 . Serum Troponins as Biomarkers of Drug-induced Cardiac Toxicity. *Toxicol. Pathol.* **32**, 106-121.
58. Rolo, A.P., Palmeira, C.M., Holy, J.M., and Wallace, K.B. 2004 . Role of mitochondrial dysfunction in combined bile acid-induced cytotoxicity: The switch between apoptosis and necrosis. *Toxicol. Sci.* **79**, 196-204.
59. O'Brien, T.M. and Wallace, K.B. 2004 . Mitochondrial permeability transition as the critical target of N-acetyl perfluorooctane sulfonamide toxicity in vitro. *Toxicol. Sci.* **82**, 330-340.
60. Lund, K.C. and Wallace, K.B. 2004 . Direct, DNA pol  $\gamma$ -independent effects of nucleoside reverse transcriptase inhibitors on mitochondrial bioenergetics. *Cardiovascular Toxicology* **4**, 217-228.
61. Lund, K.C. and Wallace, K.B. 2004 . Direct effects of nucleoside reverse transcriptase inhibitors on rat cardiac mitochondrial bioenergetics. *Mitochondrion* **4**, 193-202.
62. Slikker, W., Andersen, M.E., Bogdanffy, M.S., Bus, J.S., Cohen, S.D., Conolly, R.B., David, R.M., Doerrer, N.G., Dorman, D.C., Gaylor, D.W., Hattis, D., Rogers, J.M., Setzer, R.W., Swenberg, J.A., and Wallace, K.B. 2004 . Dose-dependent transitions in mechanisms of toxicity. *Toxicol. Appl. Pharmacol.* **201**, 203-225.
63. Slikker, W., Andersen, M.E., Bogdanffy, M.S., Bus, J.S., Cohen, S.D., Conolly, R.B., David, R.M., Doerrer, N.G., Dorman, D.C., Gaylor, D.W., Hattis, D., Rogers, J.M., Setzer, R.W., Swenberg, J.A., and Wallace, K.B. 2004 . Dose-dependent transitions in mechanisms of toxicity: Case studies. *Toxicol. Appl. Pharmacol.* **201**, 226-294.
64. Oliveira, P.J., Bjork, J.A., Santos, M.S., Leino, R.L., Froberg, M.K., Moreno, A.J., and Wallace, K.B. 2004 . Carvedilol-mediated antioxidant protection against doxorubicin-induced cardiac mitochondrial toxicity. *Toxicol. Appl. Pharmacol.* **200**, 159-168.
65. McMartin, K.E. and Wallace, K.B. 2005 . Calcium Oxalate Monohydrate, a Metabolite Of Ethylene Glycol, Inhibits Rat Renal Mitochondrial Function. *Toxicol. Sci.* **84**, 195-200.
66. Grasty RC, Bjork JA, Wallace KB, Lau CS, Rogers JM. 2005 Effects of prenatal perfluorooctane sulfonate (PFOS) exposure on lung maturation in the perinatal rat. *Birth Defects Res B Dev Reprod Toxicol.* **74**, 405-16.
67. Berthiaume, J.M., Oliveira, P.J., Fariss, M.W., and Wallace, K.B. 2005 . Dietary Vitamin E Decreases Doxorubicin-Induced Oxidative Stress without Preventing Mitochondrial Dysfunction. *Cardiovasc. Toxicol.* **05**, 257-267.
68. Oliveira, P.J., Santos, M.S., and Wallace, K.B. 2005 . Doxorubicin-induced Thiol-dependent Alteration of Cardiac Mitochondrial Permeability Transition and Respiration. *Biochemistry (Moscow)* **71**, 194-199.
69. Oliveira, P.J. and Wallace, K.B. 2006 . Depletion of adenine nucleotide transporter protein in heart mitochondria from doxorubicin-treated rats - Relevance for mitochondrial dysfunction. *Toxicology* **220**, 160-168.
70. O'Brien, T.M., Carlson, R.M., Oliveira, P.J. and Wallace, K.B. 2006 . Esterification prevents induction of the mitochondrial permeability transition by N-acetyl perfluorooctane sulfonamides. *Chem Res Toxicol.* **19**, 1305-1312.
71. Schultz TW, Carlson RE, Cronin MT, Hermens JL, Johnson R, O'brien PJ, Roberts DW, Siraki A, Wallace KB, Veith GD. 2006 . A conceptual framework for predicting the toxicity of reactive chemicals: modeling soft electrophilicity. *SAR QSAR Environ Res.* **17**, 413-28.
72. Berthiaume, J.M. and Wallace, K.B. 2007 . Adriamycin-induced oxidative mitochondrial cardiotoxicity. *Cell Biol. Toxicol.* **23**, 15-25.

73. Chang, S.-C., Thibodeaux, J.R., Eastvold, M.L., Ehresman, D.J., Bjork, J., Froehlich, J.W., Lau, C., Singh, R.J., Wallace, K.B., and Butenhoff, J.L. 2007 . Negative bias from analog methods used in the analysis of free thyroxine in rat serum containing perfluorooctanesulfonate (PFOS). *Toxicol.* **234**, 21-33.
74. Wallace, K.B. 2007 . Adriamycin-induced interference with cardiac mitochondrial calcium Homeostasis. *Cardiovasc. Toxicol.* **7**, 101-107.
75. Sardao, V.A., Oliveira, P.J., Holy, J., Oliveira, C.R., and Wallace, K.B. 2007 . Vital imaging of H9c2 myoblasts exposed to tert-butylhydroperoxide – Characterization of morphological features of cell death. *BMC Cell Biology* **16**, 11.
76. Berthiaume, J.M., Wallace, K.B. 2007 . Persistent alterations to the gene expression profile of the heart subsequent to chronic doxorubicin treatment. *Cardiovasc. Toxicol.* **7**, 178-91.
77. Palmeira, C.M., Rolo, A.P., Berthiaume, J.M., Bjork, J.A., and Wallace, K.B. 2007 Hyperglycemia decreases mitochondrial function: The regulatory role of mitochondrial biogenesis. *Toxicol. Appl. Pharmacol.* **225**, 214-220.
78. Lund, K.C. and Wallace, K.B. 2007 . Adenosine 3',5'-cyclic monophosphate (cAMP)-dependent phosphoregulation of mitochondrial complex I is inhibited by nucleoside reverse transcriptase inhibitors. *Toxicol. Appl. Pharmacol.* **226**, 94-106.
79. Lund, K.C., Peterson, L., and Wallace, K.B. 2007 . Absence of a universal mechanism of mitochondrial toxicity by nucleoside analogs. *Antimicrobial Agents and Chemotherapy* **51**, 2531-2539.
80. Chang, S.-C., Thibodeaux, J.R., Eastvold, M.L., Ehresman, D.J., Bjork, J.A., Froehlich, J.W., Lau, C., Singh, R.J., Wallace, K.B., and Butenhoff, J.B. 2008 . Thyroid hormone status and pituitary function in adult rats given oral doses of perfluorooctanesulfonate (PFOS). *Toxicology* **243**, 330-339.
81. O'Brien, T.M., Oliveira, P.J. and Wallace, K.B. 2008 . Inhibition of the Adenine Nucleotide Translocator by N-acetyl Perfluorooctane Sulfonamides In Vitro. *Toxicol. Appl. Pharmacol.* **227**, 184-195.
82. Andersen, M.E., Butenhoff, J.L., Chang, S.-C., Lau, C., Seed, J., and Wallace, K.B. 2008 . Workshop overview: Perfluoroalkyl acids and related chemistries – toxicokinetics and modes of action. *Toxicol Sci.* **102**, 3-14.
83. Wallace, K.B. Mitochondrial Off-Targets of Drug Therapy. 2008 . *Trends in Pharmacological Sciences.* **29**, 361-366.
84. Bjork, J.A., Lau, C.L., Chang, S.C., Butenhoff, J. and Wallace, K.B. 2008. Perfluorooctane sulfonate-induced changes in fetal rat liver gene expression. *Toxicology* **251**, 8-20.
85. Holsapple, M.P. and Wallace, K.B. 2008 . Dose response considerations in risk assessment - An overview of recent ILSI activities. *Toxicol. Lett.* **180**, 85-92.
86. Suzuki, S., Arnold, L.L., Muirhead, D., Lu, X., Le, X.C., Bjork, J.A., Wallace, K.B., Ohnishi, T., Kiyota, S.K., Pennington, K.L., and Cohen, S.M. 2008 . Inorganic arsenic-induced intramitochondrial granules in mouse urothelium. *Toxicol. Pathol.* **36**, 999-1005.
87. Apple, F.S., Murakami, M., Ler, R., Walker, D., York, M., et al. 2008 . Analytical characteristics of commercial cardiac troponin I and T immunoassays in serum from rats, dogs and monkeys with induced acute myocardial injury. *Clin. Chem.* **54**, 1982-1989.
88. Sardão, V.A., , Oliveira, P.J., Holy, J., Oliveira, C.R., and Wallace, K.B. 2008 . Morphological alterations induced by doxorubicin on H9c2 myoblasts: Nuclear, mitochondrial and cytoskeletal targets. *Cell Biol. Toxicol.* **25**, 227-243.
89. Chang, S.-C., Ehresman, D.J., Bjork, J.A., Wallace, K.B., Parker, G.A., Stump, D.G., and Butenhoff, J.L. 2009 . Gestational and lactational exposure to potassium perfluorooctanesulfonate (K<sup>+</sup>PFOS) in rats: Toxicokinetics, thyroid hormone status, and related gene expression. *Reprod. Toxicol.* **27**, 387-399.

90. Mackay, D., Arnot, J.A., Petkova, E.P., Wallace, K.B., Call, D.J., Brooke, L.T., and Veith, G.D. 2009 . The physicochemical basis of QSARs for baseline toxicity. *SAR QSAR Environ. Res.* **20**, 393-414.
91. Sardão, V.A., , Oliveira, P.J., Holy, J., Oliveira, C.R., and Wallace, K.B. 2009 . Doxorubicin-induced mitochondrial dysfunction is secondary to nuclear p53 activation in H9c2 cardiomyoblasts. *Cancer Chemotherapy and Pharmacology* **64**, 811-827.
92. Bjork, J.A. and Wallace, K.B. 2009 . Structure-activity relationships and human relevance for perfluoroalkyl acid-induced transcriptional activation of peroxisome proliferation in liver cell cultures. *Toxicol. Sci.* **111**, 89-99.
93. Veith, G.D., Petkova, E.P., and Wallace, K.B. 2009 . A baseline inhalation toxicity model for narcosis in mammals. *SAR & QSAR Environmental Research* **20**, 567-578.
94. Walters, M.W., Bjork, J.A., and Wallace, K.B. 2009 . Perfluorooctanoic Acid Stimulated Mitochondrial Biogenesis and Gene Transcription in Rats. *Toxicology* **264**, 10-15.
95. Carvalho, R.A, Sousa, R.P.B., Cadete, V.J.J., Lopaschuk, G.D., Palmeira, C.M.M., and Wallace, K.B. 2010 . Adaptive switch in substrate metabolism associated with subchronic doxorubicin cardiomyopathy. *Toxicology* **270**, 92-98.
96. Walters, M.W. and Wallace, K.B. 2010 . Urea cycle gene expression is suppressed by PFOA treatment in rats. *Toxicol. Lett.* **197**, 46-50.

### **Book Chapters**

1. Wallace, K.B. "Species-Selective Toxicity of Organophosphorus Insecticides: A Pharmacodynamic Phenomenon." (Chapter 4, pp 79-105 . In: Organophosphates: Chemistry Fate and Effects (eds., J.E. Chambers and P.E. Levi). Academic Press, Inc., San Diego, CA 1992 .
2. Wallace, K.B. "Oxygen Free Radical-Independent Generation of Aldehyde Products of Microsomal Lipid Peroxidation by Adriamycin." (pp. 569-576 In: Oxidative Damage & Repair: Chemical, Biological and Medical Aspects (ed., K.J.A. Davies). Pergamon Press, Inc. 1992 .
3. Wallace, K.B. "Free Radical-Mediated Chemical Cardiomyopathies." (Chapter 11 In: Free Radical Toxicology: The Target Organ Toxicology Series (ed., K.B. Wallace). Taylor and Francis 1997 .
4. Wallace, K.B. "Doxorubicin-induced Mitochondrial Cardiomyopathy." In: Mitochondria in Pathogenesis (eds., J.J. Lemasters and A.-L. Nieminen). Chapter 25, pp467-488. Kluwer Academic/Plenum Publishers, New York. 2001 .
5. Starkov, A. and Wallace, K.B. "Yin and Yang Mitochondrial ROS" In: Oxidative Stress, Disease and Cancer (ed., K. Singh), Chapter. 1, pp 1-60, Imperial College Press, London 2006 .

### **Patents**

Cyclodextrin Compositions and Methods of Treating Viral Infections.  
SLWK Dkt No. 600.538PRV; UoM File No. Z0166  
KB Wallace, MA Khan, RW Carlson, SA Rice, and MK Froberg.

March 21, 2002

## **Technical Reports**

1. Fischer, L.J., P.M. Bolger, G.P. Carlson, J.L. Jacobson, B.A. Knuth, M.J. Radike, M.A. Roberts, P.T. Thomas, K.B. Wallace and K.G. Harrison. 1995 . *Critical Review of a Proposed Uniform Great Lakes Fish Advisory Protocol*, August, 1995. Michigan Environmental Science Board, Lansing.
2. Mileson, B. Brimijoin, S., Chambers, J., Dass, P., Padilla, S., Sheets, L., Taylor, P., Van Pelt, C., and Wallace, K.B. 2001 . Guidance for the design and interpretation of studies intended to characterize acetylcholinesterase activity in peripheral nervous system. International Life Sciences, Risk Sciences Institute.
3. Wallace, K.B, Hausner, E., Herman, E., Holt, G.D., MacGregor, J.T., Metz, A.L., Murphy, E., Rosenblum, I.Y., Frank D. Sistare, F.D., and York, M.J. 2003 . Serum Troponins as Biomarkers of Drug-induced Cardiac Toxicity. U.S. Food and drug Administration, Center for Drug Evaluation and Research, National Center for Toxicological Research.